



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|-----------------|-------------|----------------------|---------------------|------------------|
| 10/791,921 | 03/03/2004 | Tetsushi Otake | 5267-77 | 3817 |

27799 7590 07/12/2006

COHEN, PONTANI, LIEBERMAN & PAVANE
551 FIFTH AVENUE
SUITE 1210
NEW YORK, NY 10176

| |
|----------|
| EXAMINER |
|----------|

AMAYA, CARLOS DAVID

| | |
|----------|--------------|
| ART UNIT | PAPER NUMBER |
|----------|--------------|

2836

DATE MAILED: 07/12/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/791,921

Applicant(s)

OTAKE, TETSUSHI

Examiner

Carlos Amaya

Art Unit

2836

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 03 March 2004.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-7 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-7 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 03 March 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 03/03/2004.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claim 1 is rejected under 35 U.S.C. 103(a) as being unpatentable over Applicants admitted prior art (Figures 1 and 2) in view of Perry (US 6,343,026).

With respect to claim 1 admitted prior art discloses a switching constant-current power supply system including: a switching-type first power converter circuit operable, in response to supply of power from an external power source, to generate a stable DC (First power converter circuit 3 circuit 3 Figure 1 receives as input a DC voltage) voltage; a second power converter circuit capable of functioning as a DC-AC converter and operable, in response to supply of said DC voltage, to supply an AC or pulsed current to a load (second power converter 10 used to supply an AC or pulsed current to a load 6); a current detector circuit (Detector circuit 5) for generating a feedback signal in proportion to a load current; and a control circuit (Control circuit 5) for controlling the operation of said first power converter circuit according to said feedback signal,

However, the admitted prior art does not disclose that the switching constant-current power supply system comprises a feedback circuit provided between said current detector circuit and said control circuit, said feedback circuit including a signal hold section for holding a signal, said feedback circuit being operable to supply either

one of a first feedback signal generated from said current detector circuit and a second feedback signal generated from said signal hold section, wherein said second feedback signal has a signal value approximately equal to that of said first feedback signal at a certain time point.

Perry discloses a first and second power converters 12 and 14 having a feedback loop is composed as shown in figures 1 and 2 of the averaging filter 40 and oring diodes 32, 34 and control amplifier 28, which receives a feedback signal based on the output voltage (Column 6 lines 14-16) this feedback circuit is between the current sensing circuit 18 and PWM control circuit 26; there is also disclosed in the feedback arrangement a signal hold section (Sample Hold circuit 38) for holding a signal (Column 7 lines 30-41). As shown in figure 1 the feedback loop is operable to supply a signal from current detector circuit (18) and a second signal generated from the hold section; as shown in figure 1 and 4 the feedback loop receives and sends signals to the PWM control circuit 26 that is time dependent, thus one would have necessarily provide the signals with approximately equal values.

It would have been obvious to include the feedback loop with the hold section as disclosed by Perry to the circuit to admitted prior art to obtain the claimed invention.

The suggestion or motivation for doing so would have been to provide a load with a stable output voltage that is based on a feedback signal having certain requirements that must be met.

Double Patenting

3. The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the

Art Unit: 2836

unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. A nonstatutory obviousness-type double patenting rejection is appropriate where the conflicting claims are not identical, but at least one examined application claim is not patentably distinct from the reference claim(s) because the examined application claim is either anticipated by, or would have been obvious over, the reference claim(s). See, e.g., *In re Berg*, 140 F.3d 1428, 46 USPQ2d 1226 (Fed. Cir. 1998); *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) or 1.321(d) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent either is shown to be commonly owned with this application, or claims an invention made as a result of activities undertaken within the scope of a joint research agreement.

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

4. Claims 1-7 are rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 1-7 of U.S. Patent No. 6,909,249 in view of Applicants Admitted Prior art.

With respect to claim 1 (US 6,909,249) discloses a switching constant-current power supply system including: a switching-type first power converter circuit operable, in response to supply of power from an external power source, to generate a stable DC voltage (switching system power converter for supplying a predetermine current to a load); a second power converter circuit capable of functioning as a DC-AC converter and operable, in response to supply of said DC voltage, to supply an AC or pulsed current to a load; a current detector circuit for generating a feedback signal in proportion to a load current (current detector for generating a feedback signal in corresponding with the load current); and a control circuit for controlling the operation of said first

power converter circuit according to said feedback signal (a controller for driving the power converter in correspondence with the feedback signal), said switching constant-current power supply system comprising: a feedback circuit provided between said current detector circuit and said control circuit (a feedback circuit, which is provided between the current detector and the controller), said feedback circuit including a signal hold section for holding a signal (comprises a signal holding unit), said feedback circuit being operable to supply either one of a first feedback signal generated from said current detector circuit and a second feedback signal generated from said signal hold section (the feedback circuit supplying either a first feedback signal, output from the current detector, or a second feedback signal, output from the signal holding unit, to the controller), wherein said second feedback signal has a signal value approximately equal to that of said first feedback signal at a certain time point (the size of the second feedback signal being approximately equal to the first feedback signal at a given time).

However (US 6,909,249) does not disclose expressly a second power converter circuit capable of functioning as a DC-AC converter and operable, in response to supply of said DC voltage, to supply an AC or pulsed current to a load.

Applicants admitted prior art discloses first and second power converters circuits 3, and 10 Figure 1, thus it would have been obvious to one of ordinary skill in the art to have include a second power converter in the invention disclose in (US 6,909,249), as taught by Applicants admitted prior art.

The suggestion or motivation for doing so would have been to be able to convert between different types of voltage sources, and also to be able to supply an output voltage that is a representative need of a load.

With respect to claim 2, claim 3 of (US 6,909,249) in view of Applicants admitted prior art discloses the switching constant-current power supply system as defined in claim 1, wherein said signal hold section provided in said feedback circuit is operable to refer to the first feedback signal at a certain time point when the load current flows, and then generate the second feedback signal approximately equal to said first feedback signal (a feedback circuit, which is provided between the current detector and the controller, and comprises a signal holding unit, which refers to a first control signal at a given point), wherein said feedback circuit is operable to supply the first feedback signal to said control circuit when the load current flows, and to supply said second feedback signal to said control circuit when no load current flows (the feedback circuit supplying the first feedback signal to the controller when the load current is flowing, and supplying the second feedback signal to the controller when the load current is not flowing).

With respect to claim 3, claim 5 of (US 6,909,249) in view of Applicants admitted prior art discloses the switching constant-current power supply system as defined in claim 2, wherein said signal hold section includes a peak hold circuit, wherein said second feedback signal is approximately equal to a maximum value of said first feedback signal generated when the load current flows (the signal holding unit comprising a peak hold circuit; the size of the second feedback signal, output from the

signal holding unit being approximately equal to maximum value of the first feedback signal while the load current is flowing).

With respect to claim 4, claim 7 of (US 6,909,249) in view of Applicants admitted prior art discloses the switching constant-current power supply system as defined in claim 3, wherein said signal hold section further includes a reset circuit operable, in response to the change from the state where no load current flows to the state where the load current flows, to supply a signal for allowing said peak hold circuit to be returned to its initial state (the signal holding unit further comprising a reset circuit, which returns the peak hold circuit to its initial state when the load current has switched from a state of flowing to a state of not flowing).

With respect to claim 5-7, claims 3, 4 of (US 6,909,249) in view of Applicants admitted prior art discloses the switching constant-current power supply system as defined in claims 2, 3 and 4, wherein said load includes a light-emitting diode to be turned on and off at a high speed, wherein said switching constant-current power supply system is operable, to supply a given current to said light-emitting diode when said light-emitting diode is in its ON state. As disclosed in claim 3 and 4 of (US 6,909,249) the feedback circuit supplying the first feedback signal to the controller when the load current is flowing, and supplying the second feedback signal to the controller when the load current is not flowing. Thus it would have been obvious to control the LED as claimed in claims 5-7 and supplying the predetermined current to the LEDs regardless if the LEDs are powered or not.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to the examiner's supervisor, Brian Sircus can be reached on (571)272-2800. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

CA


CHAUN N. NGUYEN
PRIMARY EXAMINER